every 23 hours. However, instructions in the form of code may be provided to the smart smoke detector that if movement is not sensed during one or more time periods, it should be report the lack of movement immediately or at least sooner than scheduled for communication with the cloud-based server. Occasionally, the battery-powered device may be provided with updated instructions defining when it should immediately or ahead of schedule report movement measurements, such as when a conflict with a provided version of the OBM is present.

FIG. **6** illustrates an embodiment of a method for monitoring a home environment to determine if a resident's behavior is sufficiently worrisome to warrant an administrator being notified. Method **600** may be performed as part of block **450** of method **400**. Therefore, method **600** may be performed using system **100**, which may be part of cloud computing system **264** of FIG. **2**. Each step of method **600** may be performed by a smart home device and/or a cloud computing system that performs the functions of system **100** of FIG. **1**.

At block **610**, data may be received from the various smart home devices being used to monitor the resident at the residence. At block **620**, an activity model for the resident may be created based on the received data from the one or more smart home devices. While an OBM summarizes or models a resident's ordinary and/or out-of-the-ordinary behavior over time, the activity log may be for a defined period of time, such as a particular day. For instance, based on motion data from multiple smart home devices (e.g., a smoke detector within the bedroom and a security camera in the living room), a time at which the resident rose from bed may be indicated in the activity log. Therefore, an activity log may store determinations that correspond to behaviors for which the OBM has an entry.

At block **630**, the activity model may be compared with the OBM to identify any part of the activity model that differs from the normal ranges indicated in the OBM. At block **640**, a determination may be made as to whether one or more items within the activity model differs by a sufficient margin to warrant a notification being sent. Threshold margins may be established for the behaviors of the OBM or time ranges of the OBM itself may be expanded to create a margin. If the behavior of the activity model exceeds the margin or the expanded time range of the OBM, method **600** may proceed to block **650**; otherwise, method **600** may proceed back to block **610** and continue monitoring received data and further constructing the activity model.

At block **650**, it may be determined if the administrator and/or resident has enabled notifications for the particular worrisome behavior of the activity model that does not match with the OBM. If enabled, method **600** may proceed to block **460** of method **400**. If notifications are not enabled for the particular behavior of the activity model that does not match with the OBM, the notification may be logged and accessible via a mobile device application of the administrator and/or resident.

The OBM of the resident being monitored is discussed in one or more embodiments above in terms of resident location within the residence and/or interactions of the resident with their surrounding environment (e.g., activating an appliances), which have been found to represent phenomena that, advantageously, are expository or "telling" of the overall state of the resident while also being readily measurable by a variety of smart-home devices. However, it is to be appreciated that the scope of the present teachings includes measuring, using appropriate sensors, any of a variety of extrinsic and intrinsic states of the resident representative of their well-being, including, but not limited to: medical well-being factors such as heartbeat, breathing rate, blood glucose levels, blood oxygen levels, body temperature, quality of speech, quality of sleep, etc.; psychological well-being factors such as how often the resident interacts with their pets, talks to visitors or persons at the other end of the phone line or video conference, plays video games, etc.; and lifestyle well-being factors ranging from how often they change their clothing to how regularly they do the dishes. For some embodiments, the user/administrator can select from a menu of such observable characteristics to be included in the ordinary behavior model, and, as further smart-home devices are added (e.g., the addition of a remote heartbeat monitoring system), items can be added to the menu.

The methods, systems, and devices discussed above are examples. Various configurations may omit, substitute, or add various procedures or components as appropriate. For instance, in alternative configurations, the methods may be performed in an order different from that described, and/or various stages may be added, omitted, and/or combined. Also, features described with respect to certain configurations may be combined in various other configurations. Different aspects and elements of the configurations may be combined in a similar manner. Also, technology evolves and, thus, many of the elements are examples and do not limit the scope of the disclosure or claims.

Specific details are given in the description to provide a thorough understanding of example configurations (including implementations). However, configurations may be practiced without these specific details. For example, well-known circuits, processes, algorithms, structures, and techniques have been shown without unnecessary detail in order to avoid obscuring the configurations. This description provides example configurations only, and does not limit the scope, applicability, or configurations of the claims. Rather, the preceding description of the configurations will provide those skilled in the art with an enabling description for implementing described techniques. Various changes may be made in the function and arrangement of elements without departing from the spirit or scope of the disclosure.

Also, configurations may be described as a process which is depicted as a flow diagram or block diagram. Although each may describe the operations as a sequential process, many of the operations can be performed in parallel or concurrently. In addition, the order of the operations may be rearranged. A process may have additional steps not included in the figure. Furthermore, examples of the methods may be implemented by hardware, software, firmware, middleware, microcode, hardware description languages, or any combination thereof. When implemented in software, firmware, middleware, or microcode, the program code or code segments to perform the necessary tasks may be stored in a non-transitory computer-readable medium such as a storage medium. Processors may perform the described tasks.

Having described several example configurations, various modifications, alternative constructions, and equivalents may be used without departing from the spirit of the disclosure. For example, the above elements may be components of a larger system, wherein other rules may take precedence over or otherwise modify the application of the invention. Also, a number of steps may be undertaken before, during, or after the above elements are considered.